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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,858	10/27/2000	Alfred R. DeAngelis	5048	6761

7590 01/05/2006
Milliken & Company
P. O. Box 1927
Spartanburg, SC 29304

EXAMINER

BEFUMO, JENNA LEIGH

ART UNIT PAPER NUMBER

1771

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/697,858	Applicant(s) DEANGELIS ET AL.	
	Examiner Jenna-Leigh Befumo	Art Unit 1771	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/05; 11/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 11, 2005 has been entered.

Response to Amendment

2. The Amendment submitted on October 11, 2005, has been entered. Claim 1 has been amended and claims 9 – 12 have been added. Therefore, the pending claims are 1 – 12.
3. The amendment is sufficient to overcome the 35 USC 112 rejection since the claims do not include the resistance values of the PTC yarn which was rejected.
4. The 35 USC 103 rejection based on Gould (4,061,827) is withdrawn since Gould fails to teach having a nonconductive core yarn comprising multifilaments or staple fibers.

Double Patenting

5. Claims 1 – 8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9 – 31 of copending Application No. 10/424,120 for the reasons of record.
6. Claims 1 – 8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 – 12 of U.S. Patent No. 6,720,539 for the reasons of record.

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7. Claims 1 – 12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 7 of U.S. Patent No. 6,497,951. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the electrically conductive yarn claimed in US 6,497,951 encompasses the scope of the yarn claimed by the present application.

8. Claims 1 – 12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 8 of U.S. Patent No. 6,855,421. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the electrically conductive yarn claimed in US 6,855,421 encompasses the scope of the yarn claimed by the present application.

9. Claims 1 – 12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 6 of U.S. Patent No. 6,680,117. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the electrically conductive yarn claimed in US 6,680,117 encompasses the scope of the yarn claimed by the present application.

10. Claims 1 – 12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/299154. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the electrically conductive yarn claimed in 10/299154 encompasses the scope of the yarn claimed by the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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11. Claims 1 – 12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9 – 18 and 22 – 25 of copending Application No. 10/423212. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the electrically conductive yarn claimed in 10/423212 encompasses the scope of the yarn claimed by the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 1 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al. (6,373,034) in view of Gould.

Rock et al. is drawn to heating blankets made by combining together various yarns with different conductivities (abstract). Particularly the blanket includes a heating member which comprises a nonconductive core made from insulating material, e.g., a polyester yarn, a conductive element surrounding the core, i.e., forming a sheath layer, which can be made from stainless steel wires, and an outer insulating covering (column 6, lines 1 – 12). The positioning and number of conductive yarns knit into the heating blanket are dependent on the desired end use of the fabric (column 6, lines 17 – 25). However, Rock et al. fails to teach using a conductive yarn having a positive temperature coefficient (PTC) yarn as the conductive material.

The features of Gould have been set forth in the previous Office Action. Gould discloses a conductive yarn made with a positive temperature coefficient of resistance polymer embedded

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with conductive particles. Gould discloses that products produced using yarns with a positive temperature coefficient decrease in resistance as the temperature increases (column 1, lines 55 – 60). Hence, these PTC materials can be operated without controllers because the materials have a maximum heat output determined by the conductive yarns themselves (column 1, lines 60 – 68). Thus, it would have been obvious to one of ordinary skill in the art to substitute the conductive yarn disclosed by Gould for the conductive wires wrapped around the insulating core of the heating member taught by Rock et al. since a PTC conductive yarn does not require a controller and the total amount of heat which is given off by the yarn is controlled by the materials and composition of the yarn itself to avoid any potential dangers such as burns or fires that can be caused if the material gets too hot. Thus, claims 1 and 3 – 8 are rejected. Further, it would have been obvious to produce a woven fabric instead of a knit fabric since the woven fabric can be used as a woven blanket and can produce a fabric with more dimensional stability and strength properties which would be desired in certain applications. Thus, claim 2 is rejected. Finally, it would have been obvious to one of ordinary skill in the art to use any known type of polymer material which is thermally expansive, since Gould teaches that the polymer must expand as the yarn heats to decrease the conductivity of the yarn. Thus, claims 9 – 12 are rejected.

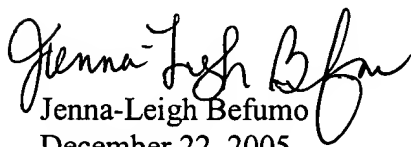
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jenna-Leigh Befumo
December 22, 2005